

APPLICATION

FOR UNITED STATES LETTERS PATENT

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, WHANG KWEE TAN, a citizen of MALAYSIA,
have invented new and useful improvements in a PHOTOGRAPH ALBUM
PAGE, SPINE AND SYSTEM of which the following is a specification:

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1 PHOTOGRAPH ALBUM PAGE, SPINE AND SYSTEM
2 BACKGROUND OF THE INVENTION

3 Related Applications

4 This application is a continuation-in-part of co-
5 pending application Serial No. 09/556,107 filed 4/21/00
6 which is in turn a continuation-in-part of application
7 Serial No. 09/394,466 filed 9/11/99 issued 8/29/00 as U.S.
8 Patent No. 6,109,647; Serial No. 09/234,22 filed 1/20/99
9 issued 12/7/99 as U.S. Patent No. 5,997,041; Serial No.
10 09/350,612 filed 7/9/99 issued 5/2/00 as U.S. Patent No.
11 6,056,494; Serial No. 09/369,708 filed 8/6/99 issued
12 11/7/00 as U.S. Patent No. 6,142,696; and Serial No.
13 09/497,837 filed 2/3/00 issued 10/24/00 as U.S. Patent No.
14 6,135,663.

15 Field of the Invention

16 The present invention relates to a photograph album
17 page, spine and system and more particularly pertains to
18 displaying photographs in an album with a unique spine and
19 pages.

20 Description of the Prior Art

21 The use of photograph album pages and spines of known
22 designs and configurations is known in the prior art.
23 More specifically, photograph album pages and spines of
24 known designs and configurations previously devised and
25 utilized for the purpose of displaying photographs through
26 a wide variety of methods and apparatuses are known to
27 consist basically of familiar, expected, and obvious
28 structural configurations, notwithstanding the myriad of
29 designs encompassed by the crowded prior art which has
30 been developed for the fulfillment of countless objectives
31 and requirements.

32 By way of example, United States Patent Number
33 4,702,026 to Shaine discloses a method of making pages of
34 a photo album. U.S. Patent Number 5,242,522 to Moir
35 discloses a method for producing a photo album page.

1 While these devices fulfill their respective,
2 particular objectives and requirements, the aforementioned
3 patents do not describe a photograph album page, spine and
4 system allowing displaying photographs in an album with a
5 unique spine and pages

6 In this respect, the photograph album page, spine and
7 system according to the present invention substantially
8 departs from the conventional concepts and designs of the
9 prior art, and in doing so provides an apparatus primarily
10 developed for the purpose of allowing the assembly of the
11 album with its unique spine and pages.

12 Therefore, it can be appreciated that there exists a
13 continuing need for a new and improved photograph album
14 page, spine and system which can be used for displaying
15 photographs in an album with a unique spine and pages. In
16 this regard, the present invention substantially fulfills
17 this need.

18 SUMMARY OF THE INVENTION

19 In view of the foregoing disadvantages inherent in
20 the known types of photograph album pages and spines of
21 known designs and configurations now present in the prior
22 art, the present invention provides an improved photograph
23 album page, spine and system. As such, the general
24 purpose of the present invention, which will be described
25 subsequently in greater detail, is to provide a new and
26 improved photograph album page, spine and system and
27 method which has all the advantages of the prior art and
28 none of the disadvantages.

29 To attain this, the present invention essentially
30 comprises a photograph album system for removably
31 receiving and supporting photographs and like image-
32 bearing documents for maximized convenience and aesthetic
33 appearance is comprised of a plurality of components in
34 combination. First provided is a spine. The spine
35 includes a pair of parallel side walls each with a top end

1 and bottom end and an interior edge and exterior edge.
 2 The spine also includes top panel and a bottom panel.
 3 Each panel has an interior and exterior face. The top
 4 panel and bottom panel are each in parallel relationship
 5 with each other. The panels are coupled at the top of the
 6 walls and at the bottom of the walls for the receipt of
 7 pages there between. The two walls and two panels are in
 8 a rectilinear configuration. The resulting configuration
 9 has an open planar face from which pages may extend and a
 10 closed arcuate face opposite therefrom. The top panel has
 11 a fixed retainer portion with a front face and flush side
 12 walls. A plurality of recesses on the interior face of
 13 fixed retainer portion. An internal lateral groove is
 14 provided at the bottom end of each of the side walls
 15 adjacent to the bottom panel. An aperture is provided
 16 through each of the side walls at an intermediate location
 17 along a mid line of the sidewalls. Next provided are a
 18 plurality of cylindrical long posts. The long posts have
 19 opposite ends adapted to be received in the recesses. The
 20 retainer portion of the top panel of the spine is adapted
 21 for the receipt of the pages there around. A removable
 22 retainer is next provided. The removable retainer has an
 23 exterior face and a plurality of internal retaining
 24 fingers. The removable retainer is adapted to slidably
 25 couple in the groove of the spine and hold the cylindrical
 26 posts in an equally spaced configuration. Next provided
 27 is a short spine pin which passes through the side wall
 28 apertures to retain the posts in position within the
 29 spine. Lastly, a plurality of pages made from flexible
 30 paper products are provided. The plurality of pages are
 31 all defined by a plurality of signatures. The signatures
 32 are defined by a plurality of page sets. Each page set
 33 consists of an interior support sheet of a rectangular
 34 configuration having a central vertical fold defining an
 35 inner bend and a pair of outer edges. Each page set

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1 further has a pair of exterior cover sheets each having a
2 central vertical fold positioned around an individual
3 outer edge of the interior support sheet with each fold
4 defining an outer bend and a pair of inner edges lying in
5 proximity to the inner bend of the interior support sheet.
6 The inner bend is adapted to hold a cylindrical long post.
7 The exterior covers are adhered to the interior support
8 sheet by glue on three sides such that two pages are
9 formed with separate pockets on each side of each page
10 with each pocket opening toward the inner edge of the
11 exterior cover sheet and the inner bend of the interior
12 support sheet. The interior support sheet initially has a
13 generally rectangular configuration having a top and
14 bottom edge and a pair of side edges and a central axis
15 with a pair of recesses at the top and bottom edge
16 thereof. The interior support sheet has a series of short
17 rectangular apertures along the central axis to facilitate
18 bending and a pair of circular apertures located equally
19 spaced from the central axis along a mid line of the
20 interior support sheet. The exterior cover sheets are
21 initially of a rectangular configuration and have a
22 plurality of rectangular apertures aligned along the
23 central axis which serve to frame the photograph and like
24 image-bearing document.

25 There has thus been outlined, rather broadly, the
26 more important features of the invention in order that the
27 detailed description thereof that follows may be better
28 understood and in order that the present contribution to
29 the art may be better appreciated. There are, of course,
30 additional features of the invention that will be
31 described hereinafter and which will form the subject
32 matter of the claims attached.

33 In this respect, before explaining at least one
34 embodiment of the invention in detail, it is to be
35 understood that the invention is not limited in its

1 application to the details of construction and to the
2 arrangements of the components set forth in the following
3 description or illustrated in the drawings. The invention
4 is capable of other embodiments and of being practiced and
5 carried out in various ways. Also, it is to be understood
6 that the phraseology and terminology employed herein are
7 for the purpose of descriptions and should not be regarded
8 as limiting.

9 As such, those skilled in the art will appreciate
10 that the conception, upon which this disclosure is based,
11 may readily be utilized as a basis for the designing of
12 other structures, methods and systems for carrying out the
13 several purposes of the present invention. It is
14 important, therefore, that the claims be regarded as
15 including such equivalent constructions insofar as they do
16 not depart from the spirit and scope of the present
17 invention.

18 It is therefore an object of the present invention to
19 provide a new and improved photograph album page, spine
20 and system which has all of the advantages of the prior
21 art photograph album pages and spines of known designs and
22 configurations and none of the disadvantages.

23 It is another object of the present invention to
24 provide a new and improved photograph album page, spine
25 and system which may be easily and efficiently
26 manufactured and marketed.

27 It is further object of the present invention to
28 provide a new and improved photograph album page, spine
29 and system which is of durable and reliable constructions.

30 An even further object of the present invention is to
31 provide a new and improved photograph album page, spine
32 and system which is susceptible of a low cost of
33 manufacture with regard to both materials and labor, and
34 which accordingly is then susceptible of low prices of
35 sale to the consuming public, thereby making such

1 photograph album page, spine and system economically
2 available to the buying public.

3 Even still another object of the present invention is
4 to provide a photograph album page, spine and system for
5 displaying photographs in an album with a unique spine and
6 pages.

7 Lastly, it is an object of the present invention to
8 provide a new and improved photograph album system having
9 a spine with an internal lateral groove at one end and a
10 removable retainer having a plurality of internal
11 retaining fingers within the groove. A plurality of pages
12 are defined by a plurality of signatures. Each signature
13 is defined by a plurality of page sets. Each page set
14 consists of an interior support sheet with a central fold
15 and a pair of exterior cover sheets. The exterior cover
16 sheets are folded around an individual outer edge of an
17 interior support sheet with each having a central fold
18 defining an outer bend. The exterior cover sheets are
19 adhered to the interior support sheet so that two pages
20 are formed with separate pockets on each side of each
21 page. Posts couple the pages to the spine.

22 These together with other objects of the invention,
23 along with the various features of novelty which
24 characterize the invention, are pointed out with
25 particularity in the claims annexed to and forming a part
26 of this disclosure. For a better understanding of the
27 invention, its operating advantages and the specific
28 objects attained by its uses, reference should be had to
29 the accompanying drawings and descriptive matter in which
30 there is illustrated preferred embodiments of the
31 invention.

32 BRIEF DESCRIPTION OF THE DRAWINGS

33 The invention will be better understood and objects
34 other than those set forth above will become apparent when
35 consideration is given to the following detailed

1 description thereof. Such description makes reference to
2 the annexed drawings wherein:

3 Figure 1 is a perspective illustration of a cover
4 sheet as used in constructing the pages of the present
5 invention.

6 Figure 2 is a top plan view of the cover sheet shown
7 in Figure 1.

8 Figure 3 is a front elevational view of the cover
9 sheet shown in Figures 1 and 2 shown in a flat
10 orientation.

11 Figures 4A, 4B, 4C and 4D are perspective
12 illustrations similar to Figures 1 and 3 but illustrating
13 an alternate embodiment with each page adapted to receive
14 various numbers of photographs per face rather than two.

15 Figure 5 is a perspective illustration of a support
16 sheet utilized in association with the pages of the
17 present invention.

18 Figure 6 is a front elevational view of the support
19 sheet shown in Figure 5 but in a flat orientation prior to
20 folding.

21 Figure 7 is a perspective illustration of an
22 assembled support sheet with two cover sheets mounted
23 thereon to thereby form a page set.

24 Figure 8 is a cross sectional view taken along line
25 8-8 of Figure 7.

26 Figure 9 is a perspective illustration of two page
27 sets assembled to form a single signature.

28 Figure 10 is a perspective illustration of a long
29 cylindrical support post for retaining a single signature
30 as shown in Figure 9.

31 Figure 11 is an exploded perspective illustration of
32 a spine for supporting a plurality of signature.

33 Figure 12 is a cross sectional view taken along line
34 12-12 of Figure 11.

1 Figure 13 is a perspective illustration of an
2 assembled photograph album system but illustrating but
3 only one of the plurality of signatures in a mounted
4 orientation.

5 Figures 14 through 17 illustrate an alternate
6 embodiment of the invention with a modified spine.

7 Figures 18 through 24 illustrate another alternate
8 embodiment of the present invention with an additional
9 modified spine construction.

10 Figures 25 through 27 illustrate yet another
11 alternate spine construction adapted to be utilized in
12 association with the pages of the present invention.

13 Figures 28 through 30 illustrate yet another
14 alternate embodiment of the invention with a further
15 modified spine construction.

16 Figures 31 through 33 illustrate a packaging system
17 adapted to be utilized in association with the photograph
18 album system of the present invention along with a
19 modified page.

20 Figures 34 through 37 illustrate a cover and page
21 construction capable of being utilized in association with
22 the photograph album system of the present invention.

23 The same reference numerals refer to the same parts
24 throughout the various Figures.

25 DESCRIPTION OF THE PREFERRED EMBODIMENT

26 With reference now to the drawings, and in particular
27 to Figure 1 thereof, the preferred embodiment of the new
28 and improved photograph album page, spine and system
29 embodying the principles and concepts of the present
30 invention and generally designated by the reference
31 numeral 10 will be described.

32 The present invention, the photograph album page,
33 spine and system 10 is comprised of a plurality of
34 components. Such components in their broadest context
35 include a spine, a removable retainer, and a plurality of

1 pages. Such components are individually configured and
2 correlated with respect to each other so as to attain the
3 desired objective.

4 A photograph album system 10 for removably receiving
5 and supporting photographs and like image-bearing
6 documents for maximized convenience and aesthetic
7 appearance is comprised of a plurality of components in
8 combination. First provided is a spine 14. The spine
9 includes a pair of parallel side walls 16 each with a top
10 end and bottom end and an interior edge and exterior edge.
11 The spine also includes top panel 18 and a bottom panel
12 20. Each panel has an interior and exterior face. The
13 top panel and bottom panel are each in parallel
14 relationship with each other. The panels are coupled at
15 the top of the walls and at the bottom of the walls for
16 the receipt of pages therebetween. The two walls and two
17 panels are in a rectilinear configuration. The resulting
18 configuration has an open planar face 22 from which pages
19 may extend and a closed arcuate face 24 opposite
20 therefrom. The top panel has a fixed retainer portion 26
21 with a front face and flush side walls. A plurality of
22 recesses 28 on the interior face of fixed retainer
23 portion. An internal lateral groove 30 is provided at the
24 bottom end of each of the side walls adjacent to the
25 bottom panel. An aperture 32 is provided through each of
26 the side walls at an intermediate location along a mid
27 line of the sidewalls.

28 Next provided are a plurality of cylindrical long
29 posts 36. The long posts have opposite ends adapted to be
30 received in the recesses 28. The retainer portion of the
31 top panel of the spine is adapted for the receipt of the
32 pages there around.

33 A removable retainer 42 is next provided. The
34 removable retainer has an exterior face and a plurality of
35 internal retaining fingers 44. The removable retainer is

1 adapted to slidably couple in the groove of the spine.
2 After final assembly, the retainer is glued to hold the
3 cylindrical posts in an equally spaced configuration.

4 Next provided is a short spine pin 48 which passes
5 through the side wall apertures to retain the posts in
6 position within the spine.

7 Lastly, a plurality of pages 52 made from flexible
8 paper products are provided. The plurality of pages are
9 all defined by a plurality of signatures 54, only one of
10 which is shown. The signatures are defined by a plurality
11 of page sets 56. Each page set consists of an interior
12 support sheet 58 of a rectangular configuration having a
13 central vertical fold defining an inner bend 60 and a pair
14 of outer edges 62. Each page set further has a pair of
15 exterior cover sheets 64 each having a central vertical
16 fold positioned around an individual outer edge of the
17 interior support sheet with each fold defining an outer
18 bend 66 and a pair of inner edges 68 lying in proximity to
19 the inner bend of the interior support sheet. The inner
20 bend is adapted to hold a cylindrical long post. The
21 exterior covers are adhered to the interior support sheet
22 by glue 70 on three sides such that two pages are formed
23 with separate passageways 72 on each side of each page
24 with each passageway opening toward the inner edge of the
25 exterior cover sheet and the inner bend of the interior
26 support sheet. The interior support sheet initially has a
27 generally rectangular configuration having a top and
28 bottom edge and a pair of side edges and a central axis
29 with a pair of recesses 74 at the top and bottom edge
30 thereof. The interior support sheet has a series of short
31 rectangular apertures 76 along the central axis to
32 facilitate bending and a pair of circular apertures 78
33 located equally spaced from the central axis along a mid
34 line of the interior support sheet. The exterior cover
35 sheets are initially of a rectangular configuration and

1 have a plurality of rectangular apertures 80 aligned along
2 the central axis which serve to frame the photograph and
3 like image-bearing document.

4 An alternate embodiment of the invention is shown in
5 Fgiure 4A wherein the cover sheets 64A are cut with
6 openings 80A to receive six photographs per page set,
7 three one each face of each page, on opposite sides of the
8 fold line 80A. Figures 4B, 4C and 4D illustrate alternate
9 constructions of the cover sheets 64B, 64C and 64D. In
10 the Figure 4B embodiment, the cover sheet 64B has six
11 openings 70B on each side of the fold line 66B. Four
12 horizontal glue lines 70B are above and below each
13 opening. Insertion and removal of photographs is
14 facilitated by vertical slots 70B between the laterally
15 spaced openings of each face of each page. The Figure 4C
16 embodiment is cut to form three landscape oriented
17 openings 80C on each side of the centerline 66C with glue
18 lines 70C above and below, and with two portrait oriented
19 openings laterally spaced therefrom. A horizontal slot
20 84C is located between the portrait oriented openings on
21 each side for picture insertion and/or removal. The
22 embodiment of Figure 4D features openings 80D of various
23 sizes and orientations on each side of the fold line 66D.
24 Glue lines 870D are vertically positioned on opposite
25 sides of the openings with slots 84D adjacent to each
26 opening 80D for picture insertion and/or removal.

27 The present invention relates to a photograph album
28 made with a special spine and special designed paper
29 pages. The special spine is an improvement over the
30 spines of our previous patent applications. Such
31 improvement enables easier and smoother assembly.

32 The special pages are preferably made from paper,
33 which will give the photograph album a sense of value
34 because most of the high-end photograph albums are

1 associated with paper. Low-end photograph albums are
2 associated with plastic pockets.

3 The album pages actually look like paper frames. The
4 whole album is, therefore, consisted of a number of paper
5 frames together with a cover. There are some processes
6 needed to be done before the pages could be assembled
7 together to become a photograph album.

8 The paper pages are made up of three components, one
9 centerpiece or support sheet and two frame pieces or cover
10 sheets. To produce the support sheet, one piece of paper
11 is die-cut with rectangular holes along the centerline
12 with pressed lines on the two sides of the rectangular
13 spots. The support sheet is then folded along the center
14 to become two pages with the center attached. The purpose
15 to have die-cut rectangular holes is to align the pages
16 and to make the pages more straight during assembling the
17 pages into the album.

18 To make the cover sheets, two pieces of identical
19 size paper are needed, the two pieces of page are then
20 die-cut into frames, the size and the number of cover
21 sheets on each page is determined by the size and number
22 of photographs the album is designed to accommodate. Each
23 of the papers with the die-cut cover sheets is folded
24 symmetrically to create two pages with the center
25 attached.

26 The next step is to apply adhesive on the die-cut
27 cover sheets. It is important that the amount of adhesive
28 applied will not block the inserting of the pictures, so
29 only an adequate amount will do. It is important to note
30 that the adhesive will only be applied horizontally by an
31 automatic dispenser. This dispenser will apply adhesive
32 in a linear form making production effectively and
33 efficiently. The next step is to combine the cover sheet
34 and the support sheet together to form the complete page.

1 The pages are then hung onto poles, preferably two
 2 pages per pole to form a signature. As mentioned earlier,
 3 there are die-cut indentations along the center of the
 4 centerpiece. If two identical pages are stacked together
 5 without the die-cut indentations, the pages will not be
 6 straight and aligned because of the thickness. With the
 7 die-cut indentations, however, the pages will tend to be
 8 aligned and straight if the die-cut portions of the page
 9 allow the other non die cut portions of the page to slot
 10 in. The next step is to insert a pole vertically into the
 11 pages to lock and keep the pages and the poles together.

12 The pages are to be installed into a specially
 13 designed spine holder. This holder is an improvement of
 14 the previous spine of our prior patent applications. The
 15 spine holder is, preferably, made by injection moldings.
 16 There are actually two separate units to this holder, one
 17 part for holding the pages and the other is for locking
 18 the pages. Once the pages are installed into the holding
 19 part of the holder, the locking part of the holder will
 20 then lock the pages from falling out.

21 The holder has two long parallel walls and two short
 22 parallel walls. One side of the holder is enclosed shaped
 23 like an arc or made with a plurality of bridges in-between
 24 the two long walls running parallel with the two short
 25 walls to save material. The enclosed side or the bridges
 26 are used to keep the poles with pages in position and not
 27 to fall out of the holder. There are some indented slots
 28 in one of the short walls for the holding of the pages.
 29 There are indented slots on the locking part as well.
 30 They serve the same function to hold and keep the poles
 31 with pages in position.

32 It should be understood that the primary embodiment
 33 of the present invention includes a new and useful and
 34 unobvious spine construction as well as a new and useful
 35 and unobvious page construction. It should be understood

1 that the spine is adapted to receive a wide variety of
2 pages. Additionally, a wide variety of spines could be
3 used with the pages.

4 An alternate embodiment of the invention is
5 illustrated in Figures 14 through 17. In this embodiment
6 the spine is modified to receive pages as described in the
7 primary embodiment.

8 Still another alternate embodiment with an additional
9 modified spine is shown in Figures 18 through 24.

10 Yet another alternate spine construction adapted to
11 be utilized in association with the pages of the present
12 invention is shown in Figures 25 through 27.

13 Even yet another further modified spine construction
14 is shown in another alternate embodiment of the invention
15 in Figures 28 through 30.

16 A packaging system adapted to be utilized in
17 association with the photograph album system of the
18 present invention is shown in Figure 31 through 33 along
19 with a modified page.

20 A cover and page construction capable of being
21 utilized in association with the photograph album system
22 of the present invention is shown in Figures 34 through
23 37. Such cover, as well as the pages of figures 17A, 33
24 and 35, could be utilized with the spine as described in
25 the primary embodiment.

26 Further details of construction for these alternate
27 embodiments to spine constructions, packaging
28 arrangements, and supplemental covers may be had in
29 greater detail by reference to copending U.S. Patent
30 Application Serial Number 09/556,107 filed April 21, 2000
31 and U.S. Patent Number 6,109,657, as well as the patent
32 applications and patents thereof as recited herein above,
33 the subject matter of which is incorporated there in by
34 reference.

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1 As to the manner of usage and operation of the
2 present invention, the same should be apparent from the
3 above description. Accordingly, no further discussion
4 relating to the manner of usage and operation will be
5 provided.

6 With respect to the above description then, it is to
7 be realized that the optimum dimensional relationships for
8 the parts of the invention, to include variations in size,
9 materials, shape, form, function and manner of operation,
10 assembly and use, are deemed readily apparent and obvious
11 to one skilled in the art, and all equivalent
12 relationships to those illustrated in the drawings and
13 described in the specification are intended to be
14 encompassed by the present invention.

15 Therefore, the foregoing is considered as
16 illustrative only of the principles of the invention.
17 Further, since numerous modifications and changes will
18 readily occur to those skilled in the art, it is not
19 desired to limit the invention to the exact construction
20 and operation shown and described, and accordingly, all
21 suitable modifications and equivalents may be resorted to,
22 falling within the scope of the invention.